AMENDMENTS TO THE CLAIMS

1.   (Currently Amended)   A method for emulating a surface electrocardiogram (EKG) of a patient in which an implantable cardiac stimulation device is implanted, the method comprising:

sensing a <u>single</u> cardiac signal within the heart;

distinguishing portions of the <u>single</u> cardiac signal corresponding to atrial signals from those corresponding to ventricular signals; and

adjusting relative amplitudes of the portions of the <u>single</u> cardiac signal corresponding to atrial signals and the portions corresponding to ventricular signals so as to yield an emulated surface EKG.

2.   (Currently Amended)   The method of claim 1 wherein sensing a <u>single</u> cardiac signal is performed to sense an atrial unipolar signal using a lead implanted within the heart.

3.   (Currently Amended)   The method of claim 2 wherein distinguishing portions of the <u>single</u> cardiac signals comprises:

identifying near-field atrial signals within the atrial unipolar signal; and

identifying far-field ventricular signals within the atrial unipolar signal.

4.   (Currently Amended)   The method of claim 3 wherein adjusting the relative amplitudes of the portions of the <u>single</u> cardiac signal comprises:

determining a value representative of the peak magnitude of the near-field atrial signals;

determining a value representative of the peak magnitude of the far-field ventricular signals; and

adjusting the relative magnitudes of the near-field atrial signals and the far-field ventricular signals so as to achieve a predetermined ratio of peak atrial to peak ventricular magnitude.

5.   (Original)   The method of claim 4 wherein the predetermined ratio of peak atrial to peak ventricular magnitude is in the range of 1:4 to 1:10.

6.   (Currently Amended)   The method of claim 1 wherein <u>a single</u> sensing cardiac signal is performed to sense a cross-chamber signal between an atrial electrode and a ventricular electrode.

7.   (Cancelled)

8.   (Currently Amended)   The method of claim 7 wherein adjusting the relative amplitudes of the portions of the <u>single</u> cardiac signal comprises:
determining a value representative of the peak magnitude of the atrial signals;
determining a value representative of the peak magnitude of the ventricular signals; and
adjusting the relative magnitudes of the atrial signals and the ventricular signals so as to achieve a predetermined ratio of peak atrial to peak ventricular magnitude.

9.   (Original)   The method of claim 8 wherein the predetermined ratio of peak atrial to peak ventricular magnitude is in the range of 1:4 to 1:10.

10.   (Original)   The method of claim 6 wherein the atrial electrode is a right atrial tip electrode, a right atrial ring electrode, an SVC coil electrode, a left atrial ring electrode, a left atrial coil electrode or a transseptal atrial electrode and wherein the ventricular electrode is a right ventricular tip electrode, a right ventricular ring electrode, a right ventricular coil electrode, a left ventricular tip electrode, a left ventricular ring or a ventricular epicardial electrode.

11.   (Currently Amended)   The method of claim 1 wherein adjusting relative amplitudes of the portions of the <u>single</u> cardiac signal further comprises smoothing the adjusted signal.

12. (Previously Amended)   The method of claim 1 further comprising controlling device functions based, in part, on the emulated surface EKG.

13. (Original)   The method of claim 1 performed entirely by the implantable medical device.

14. (Original)   The method of claim 1 performed by the implantable medical device in combination with a device external to the patient and further comprising transmitting the cardiac signal to the external device and wherein the steps of distinguishing portions of the cardiac signals and adjusting relative amplitudes of the portions of the cardiac signal to yield an emulated surface EKG are performed by the external device.

15. (Currently Amended)   A system for emulating a surface electrocardiogram (EKG) of a patient, the system comprising:

input circuitry operative to input a <u>single</u> cardiac signal sensed by a device implanted within the patient;

a surface EKG emulation controller operative to distinguish portions of the <u>single</u> cardiac signal corresponding to atrial signals from those corresponding to ventricular signals and to adjust relative amplitudes of the portions of the cardiac signal corresponding to atrial signals and the portions corresponding to ventricular signals so as to yield an emulated surface EKG.

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16.   (Currently Amended)   A system for use in an implantable medical device for emulating a surface electrocardiogram (EKG) of a patient in which the device is implanted, the system comprising:

means for sensing a <u>single</u> cardiac signal;

means for distinguishing portions of the <u>single</u> cardiac signal corresponding to near-field atrial signals from those corresponding to far-field ventricular signals; and

means for adjusting the relative amplitudes of the portions of the cardiac signal corresponding to near-field atrial signals and the portions corresponding to far-field ventricular signals so as to yield an emulated surface EKG.